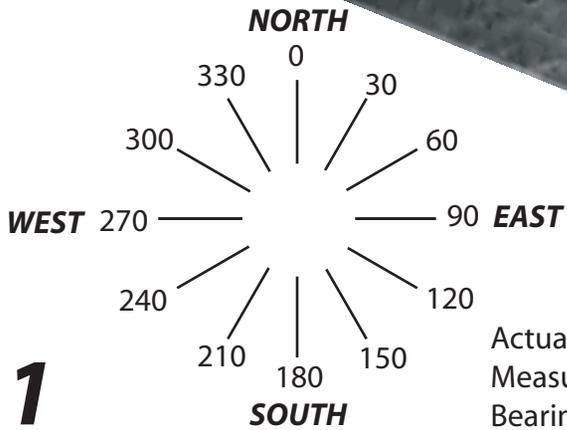
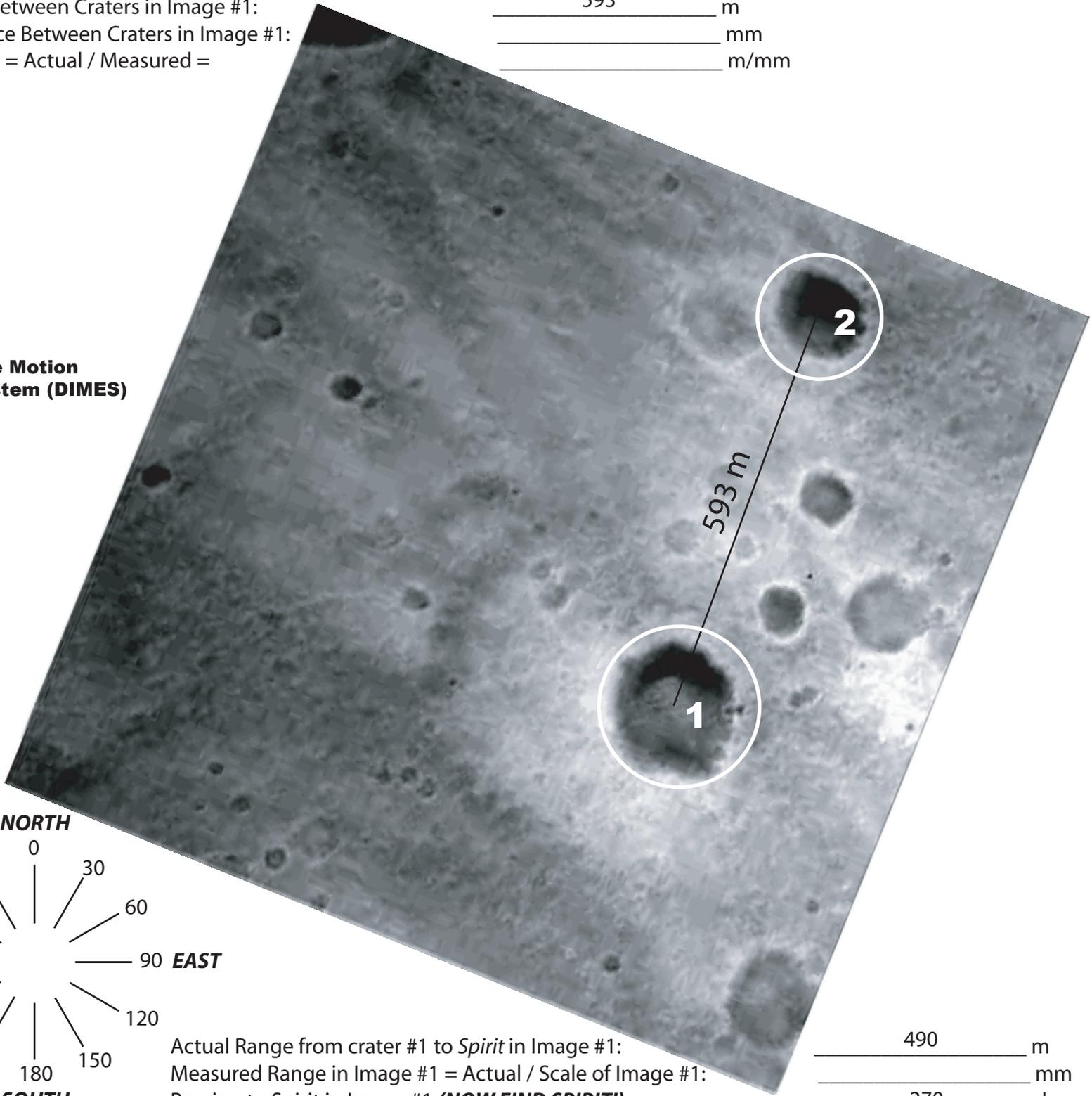


Actual Distance Between Craters in Image #1:
Measured Distance Between Craters in Image #1:
Scale of Image #1 = Actual / Measured =

_____ 593 _____ m
_____ mm
_____ m/mm

**Descent Image Motion
Estimation System (DIMES)**

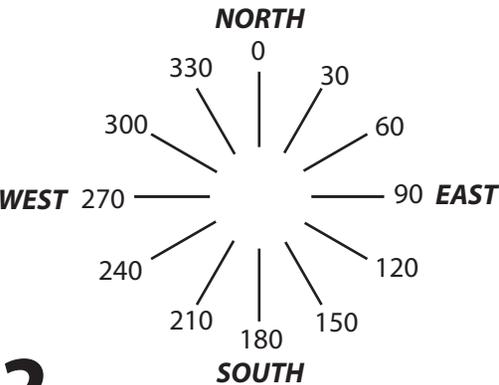
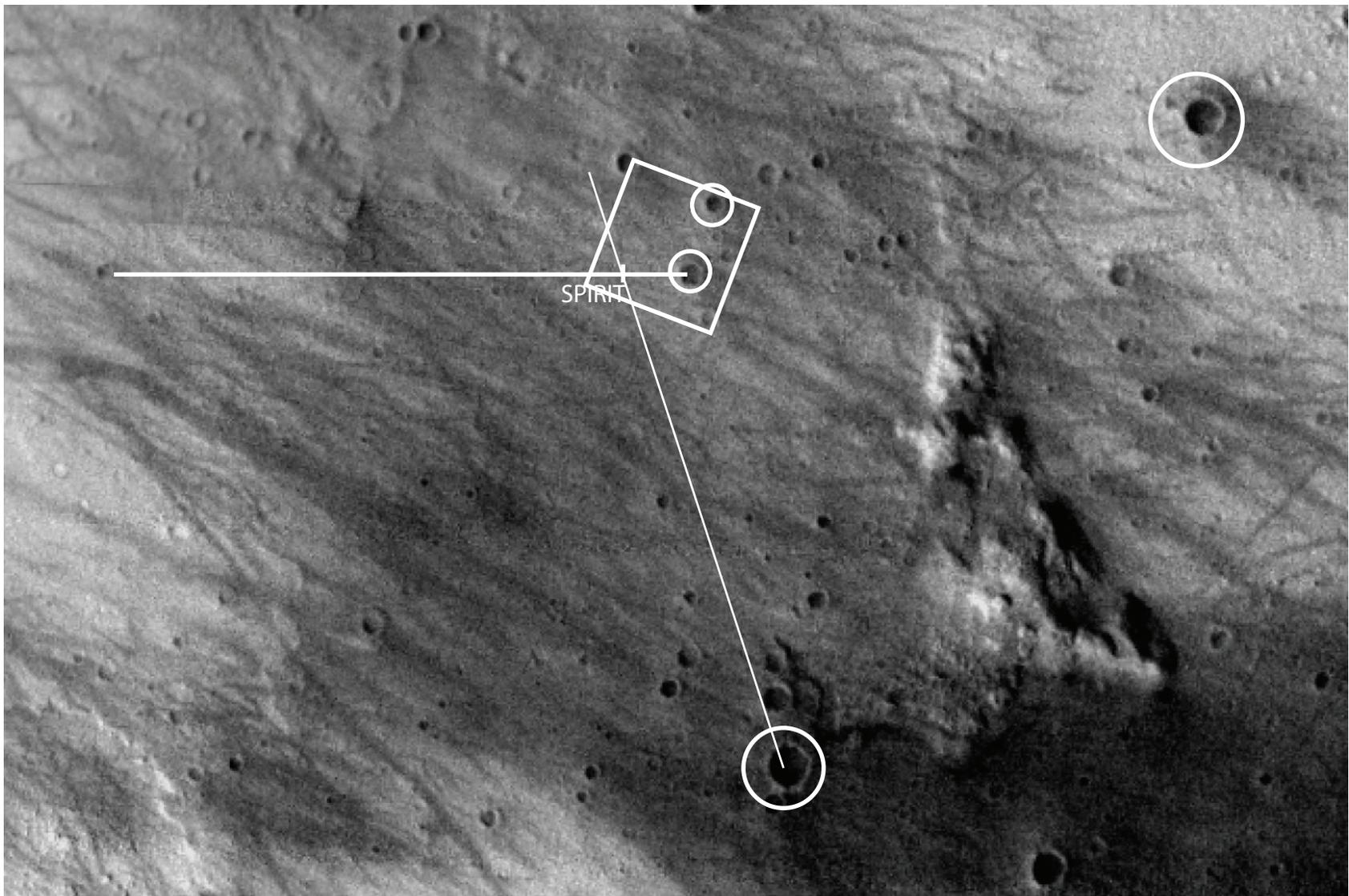


Actual Range from crater #1 to *Spirit* in Image #1:
Measured Range in Image #1 = Actual / Scale of Image #1:
Bearing to *Spirit* in Image #1 (**NOW FIND SPIRIT!**):

_____ 490 _____ m
_____ mm
_____ 270 _____ degrees

Thermal Emission Imaging System (THEMIS)

Visible Camera



Actual Distance Between Two Largest Craters in Image #1:	593	m
Measured Distance Between Craters in Image #2 (Circle them and measure!):	12	mm
Scale of Image #2 (Actual Distance / Measured Distance):	49.4	m/mm

Step 1: Find the Scale of the Current Image

Actual Range from Largest Crater in Image #1 to Spirit:	490	m
Measured Range in Image #2 (Actual Range / Scale of Image #2):	9.9	mm
Bearing from Crater in Image #1 to Spirit (NOW FIND SPIRIT!):	270	degrees

Step 2: Find Spirit In the Current Image

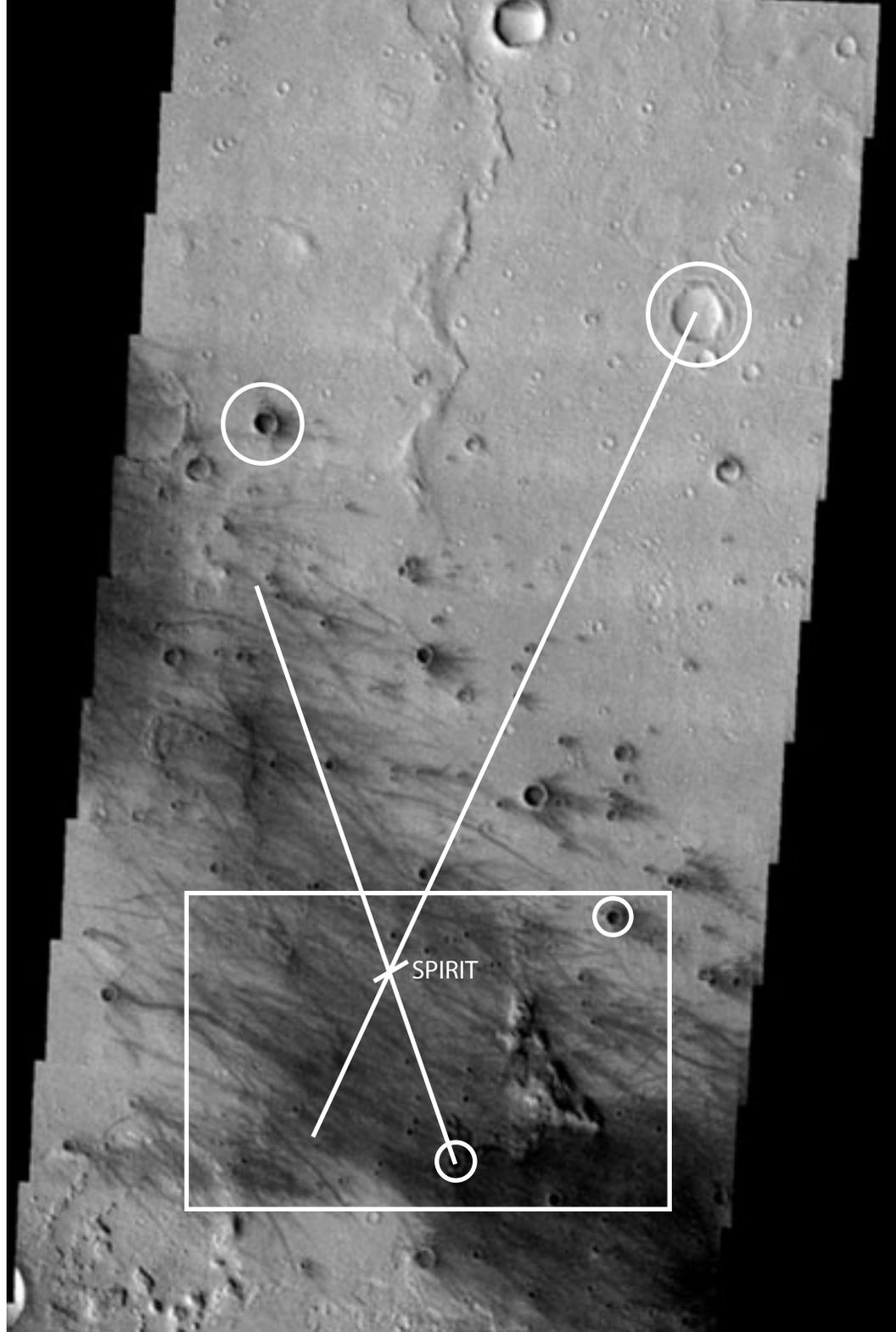
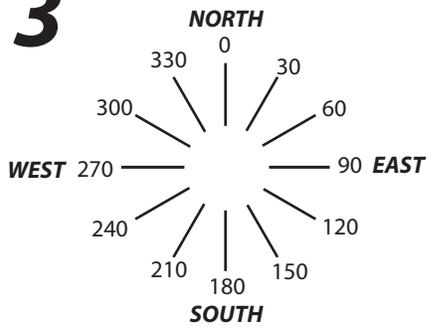
Measured Distance Between Two Largest Craters in Image #2 (Circle and measure!):	123	mm
Actual Distance (Measured Distance x Scale of Image #2):	6076	m

Step 3: Find Actual Dist. Between Two Largest Craters

Measured Range to Spirit from Largest Crater in Image #2 (Measure it!):	83	mm
Actual Range (Measured Range x Scale of Image #2) to Spirit:	4100	m
Bearing to Spirit from Largest Crater in Image #2 (Measure it!):	343	degrees

Step 4: Find Range & Bearing to Spirit From Largest Crater

3



Thermal Emission Imaging System (THEMIS)

Visible Camera

Actual Distance Between Two Largest Craters in Image #2:	<u>6076</u> m
Measured Distance Between Craters in Image #3 (Circle them and measure!):	<u>43</u> mm
Scale of Image #3 (Actual Distance / Measured Distance):	<u>141.3</u> m/mm

Step 1: Find the Scale of the Current Image

Actual Range from Largest Crater in Image #2 to Spirit:	<u>4100</u> m
Measured Range in Image #3 (Actual Range / Scale of Image #3):	<u>29.0</u> mm
Bearing from Crater in Image #2 to Spirit (NOW FIND SPIRIT!):	<u>343</u> degrees

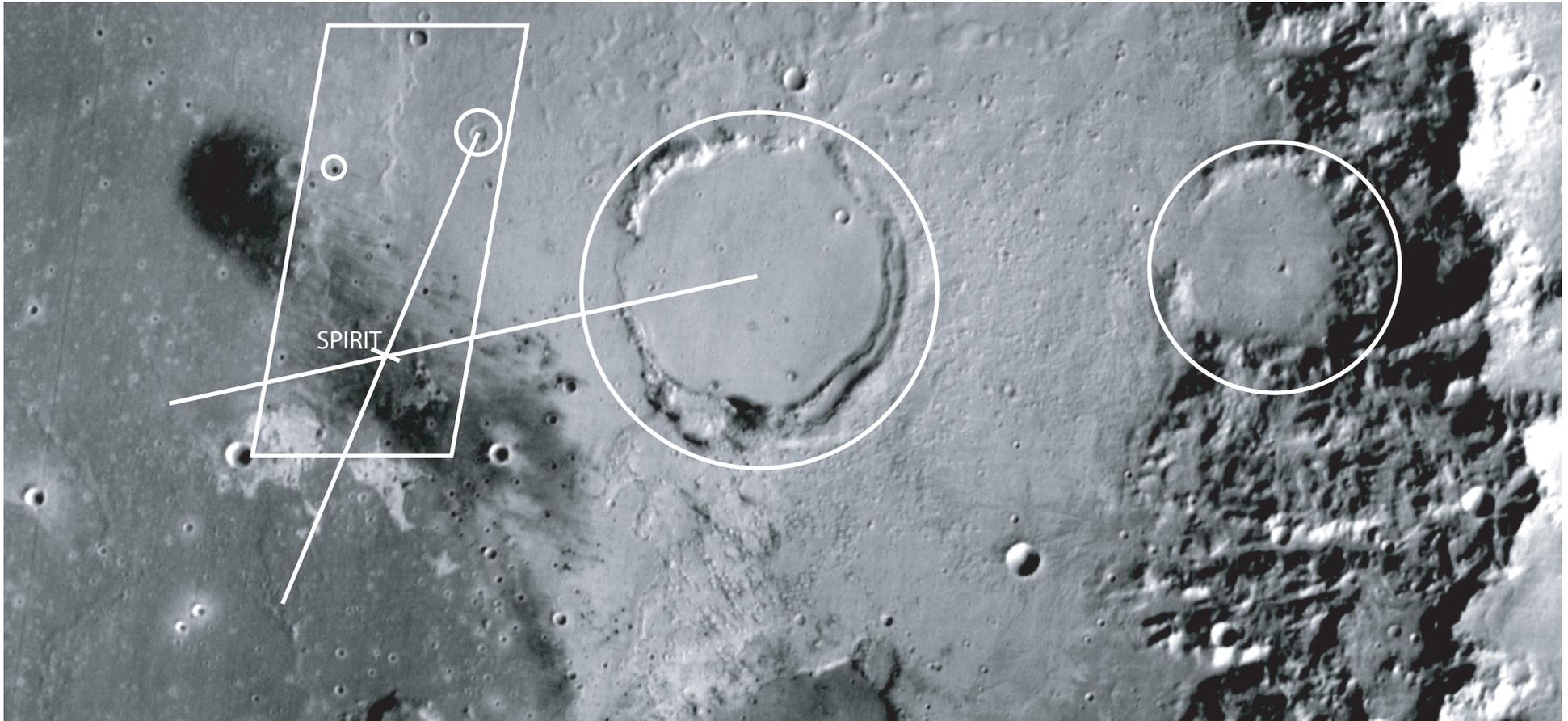
Step 2: Find Spirit In the Current Image

Measured Distance Between Two Largest Craters in Image #3 (Circle and measure!):	<u>66.0</u> mm
Actual Distance (Measured Distance x Scale of Image #3):	<u>9325.8</u> m

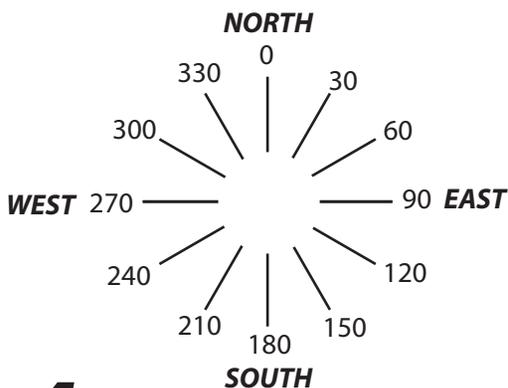
Step 3: Find Actual Dist. Between Two Largest Craters

Measured Range to Spirit from Largest Crater in Image #3 (Measure it!):	<u>108</u> mm
Actual Range (Measured Range x Scale of Image #3) to Spirit:	<u>15260.4</u> m
Bearing to Spirit from Largest Crater in Image #3 (Measure it!):	<u>203</u> degrees

Step 4: Find Range & Bearing to Spirit From Largest Crater



**Thermal Emission Imaging System (THEMIS)
Infrared Camera (Colors Inverted)**



4

Actual Distance Between Two Largest Craters in Image #3:	<u>9325.8</u> m
Measured Distance Between Craters in Image #4 (Circle them and measure!):	<u>23</u> mm
Scale of Image #4 (Actual Distance / Measured Distance):	<u>405.5</u> m/mm

Step 1: Find the Scale of the Current Image

Actual Range from Largest Crater in Image #3 to Spirit:	<u>15260.4</u> m
Measured Range in Image #4 (Actual Range / Scale of Image #4):	<u>37.6</u> mm
Bearing from Crater in Image #3 to Spirit (NOW FIND SPIRIT!):	<u>203</u> degrees

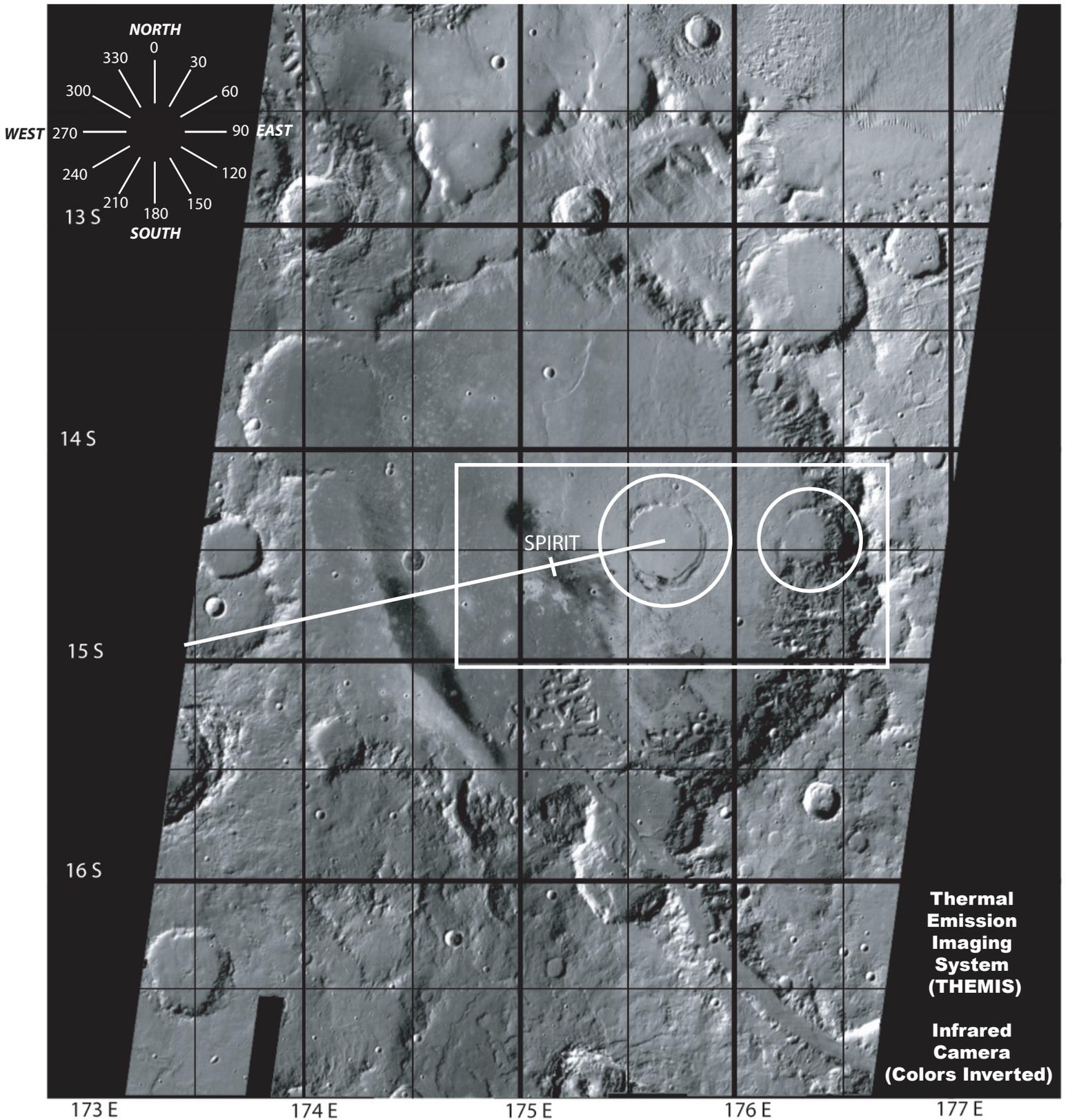
Step 2: Find Spirit In the Current Image

Measured Distance Between Two Largest Craters in Image #4 (Circle and measure!):	<u>80</u> mm
Actual Distance (Measured Distance x Scale of Image #4):	<u>32440</u> m

Step 3: Find Actual Dist. Between Two Largest Craters

Measured Range to Spirit from Largest Crater in Image #4 (Measure it!):	<u>61</u> mm
Actual Range (Measured Range x Scale of Image #4) to Spirit:	<u>24735.5</u> m
Bearing to Spirit from Largest Crater in Image #4 (Measure it!):	<u>258</u> degrees

Step 4: Find Range & Bearing to Spirit From Largest Crater



Actual Distance Between Two Largest Craters in Image #4:	<u>32440</u> m
Measured Distance Between Craters in Image #5 (Circle them and measure!):	<u>27</u> mm
Scale of Image #5 (Actual Distance / Measured Distance):	<u>1201.5</u> m/mm

Step 1: Find the Scale of the Current Image

Actual Range from Largest Crater in Image #4 to Spirit:	<u>24735.5</u> m
Measured Range in Image #5 (Actual Range / Scale of Image #5):	<u>20.6</u> mm
Bearing from Crater in Image #4 to Spirit (NOW FIND SPIRIT!):	<u>258</u> degrees

Step 2: Find Spirit In the Current Image

WHERE IS SPIRIT?

Latitude: 14.6 S **degrees** **Longitude:** 175.2 E **degrees**